CLAIMS

We claim:

1. A method for gem item report generation comprising the steps of:

5   capturing a first image of a gem item;

capturing a second image of said gem item;

storing said first image as part of a report for said gem item; and

storing said second image as part of said report for said gem item.

10   2. The method of claim 1 wherein said first image is captured from a first

perspective and wherein said second image is captured from a second perspective.

3. The method of claim 1 wherein said first image is captured at a first magnification

level and wherein said second image is captured at a second magnification level.

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4. The method of claim 1 wherein said first image and said second image are part of

a plurality of images that form a 360-degree view of said gem item.

5. The method of claim 1 further comprising the step of:

20   displaying a three dimensional image of said gem item wherein said three dimensional

image is formed from data stored in said report.

6. The method of claim 1 further comprising the steps of:

selecting a perspective by a user; and

25   displaying said first image.

7. The method of claim 6 wherein said first image is from said perspective.

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8.   The method of claim 6 wherein said first image is a best fit for said perspective in a plurality of images of said gem item that are stored as part of said report.

5   9.   The method of claim 1 further comprising the steps of:

selecting a magnification level by a user; and

displaying said first image.

10.   The method of claim 9 wherein said first image is at said magnification level.

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11.   The method of claim 9 wherein said first image is a best fit for said magnification level in a plurality of images of said gem item that are stored as part of said report.

12.   The method of claim 1 further comprising the step of:

15   displaying a plurality of images stored as part of said report in a pre-determined order.

13.   The method of claim 1 further comprising the steps of:

associating a hyperlink to a second data item with a first data item; and

storing said first data item and said hyperlink as part of said report.

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14.   The method of claim 1 further comprising the steps of:

displaying said first image to an interested party.

15.   The method of claim 14 wherein said interested party is a potential buyer.

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16.   The method of claim 14 wherein said interested party is a student.

17. The method of claim 16 wherein said student is learning to cut a type of gem item.

18. The method of claim 16 wherein said student is learning to appraise a type of gem item.   .

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19. The method of claim 1 further comprising the steps of:

capturing a third image of a second gem item;

comparing said third image to said first image; and

determining whether said second gem item is said gem item.

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20. The method of claim 1 further comprising the steps of:

transmitting said first image from a first location to a second location.

21. The method of claim 1 further comprising the steps of:

15   packaging a printed version of said report together with said report.

22. The method of claim 1 further comprising the step of:

displaying a photorealistic image of said gem item wherein said photorealistic image is

formed from data stored in said report.

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23. The method of claim 1 wherein said step of storing said first image comprises the

step of:

storing said first image as part of a report for said gem item electronically.

25   24. The method of claim 1 wherein said step of storing said first image comprises the

step of:

storing said first image as part of a report for said gem item holographically.

25.   The method of claim 1 wherein said step of storing said first image comprises the step of:

storing said first image as part of a report for said gem item via ionic implant.

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26.   The method of claim 1 wherein said step of storing said first image comprises the step of:

storing said first image as part of a report for said gem item genetically.

10   27.   The method of claim 1 wherein said step of storing said first image comprises the step of:

storing said first image as part of a report for said gem item chemically.

28.   The method of claim 1 further comprising the step of:

15   encrypting a data item of said report.

29.   A method of determining authenticity of a first gem item comprising the steps of:

generating a report for a second gem item wherein said report comprises:

a first image of said second gem item; and

20   a second image of said second gem item; and

comparing a feature of said first gem item to a data item in said report.

30.   A method of determining authenticity of a report comprising the steps of:

generating a report for a gem item wherein said report comprises:

25   a first image of said gem item; and

a second image of said gem item; and

encrypting a data item of said report;

attempting to decrypt said data item; and

authenticating said report if said data item is decrypted successfully.

31. The method of claim 30 wherein said step of attempting comprises the step of:

5   using a reading device.

32. A method of informing comprising the steps of:

capturing a first image of a gem item;

capturing a second image of said gem item;

10   storing said first image as part of a report for said gem item;

storing said second image as part of said report for said gem item; and

displaying a data item of said report to a viewer.

33. The method of claim 32 wherein said viewer is a student.

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34. The method of claim 33 wherein said viewer is a researcher.

35. A gem item report system comprising:

a first image of a gem item;

20   a second image of said gem item;

a storage unit configured to store said first image and said second image as part of a

report for said gem item.

36. The gem item report system of claim 35 wherein said first image is captured from

25 a first perspective and wherein said second image is captured from a second perspective.

37.   The gem item report system of claim 35 wherein said first image is captured at a first magnification level and wherein said second image is captured at a second magnification level.

5   38.   The gem item report system of claim 35 wherein said first image and said second image are part of a plurality of images that form a 360-degree view of said gem item.

39.   The gem item report system of claim 35 further comprising:

a display unit configured to display a three dimensional image of said gem item wherein

10   said three dimensional image is formed from data stored in said report.

40.   The gem item report system of claim 35 further comprising:

a selection unit configured to select a perspective by a user; and

a display unit configured to display said first image.

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41.   The gem item report system of claim 40 wherein said first image is from said perspective.

42.   The gem item report system of claim 40 wherein said first image is a best fit for

20   said perspective in a plurality of images of said gem item that are stored as part of said report.

43.   The gem item report system of claim 35 further comprising:

a selection unit configured to select a magnification level by a user; and

a display unit configured to display said first image.

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44.   The gem item report system of claim 43 wherein said first image is at said magnification level.

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45.   The gem item report system of claim 43 wherein said first image is a best fit for said magnification level in a plurality of images of said gem item that are stored as part of said report.

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46.   The gem item report system of claim 35 further comprising:

a display unit configured to display a plurality of images stored as part of said report in a pre-determined order.

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47.   The gem item report system of claim 35 further comprising:

a hyperlink unit configured to associate a hyperlink to a second data item with a first data item, wherein said storage unit is further configured to store said first data item and said hyperlink as part of said report.

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48.   The gem item report system of claim 35 further comprising:

a display unit configured to display said first image to an interested party.

49.   The gem item report system of claim 48 wherein said interested party is a potential buyer.

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50.   The gem item report system of claim 48 wherein said interested party is a student.

51.   The gem item report system of claim 50 wherein said student is learning to cut a type of gem item.

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52.   The gem item report system of claim 50 wherein said student is learning to appraise a type of gem item.

53.   The gem item report system of claim 35 further comprising:

a third image of a second gem item;

a comparing unit configured to compare said third image to said first image; and

5   a determiner configured to determine whether said second gem item is said gem item.

54.   The gem item report system of claim 35 further comprising:

a transmitter configured to transmit said first image from a first location to a second

location.

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55.   The gem item report system of claim 35 further comprising:

a printed version of said report wherein said printed version is packaged together with

said report.

15   56.   The gem item report system of claim 35 further comprising:

a display unit configured to display a photorealistic image of said gem item wherein said

photorealistic image is formed from data stored in said report.

57.   The gem item report system of claim 35 wherein said storage unit stores

20   electronically.

58.   The gem item report system of claim 35 wherein said storage unit stores

holographically.

25   59.   The gem item report system of claim 35 wherein said storage unit stores via ionic

implant.

60.   The gem item report system of claim 35 wherein said storage unit stores genetically.

61.   The gem item report system of claim 35 wherein said storage unit stores

5   chemically.

62.   The gem item report system of claim 35 further comprising:

an encryption unit configured to encrypt a data item of said report.

10   63.   A gem item authenticating system comprising:

a report for a first gem item comprising:

        a first image of said first gem item; and

        a second image of said first gem item; and

a comparing unit configured to compare a feature of a second gem item to a data item in

15 said report.

64.   A report authenticating system comprising:

a report for a gem item wherein said report comprises:

        a first image of said gem item; and

20   a second image of said gem item; and

an encryption unit configured to encrypt a data item of said report;

a decryption unit configured to attempt to decrypt said data item; and

an authenticating unit configured to authenticate said report if said data item is decrypted

successfully.

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65.   The report authenticating system of claim 64 wherein said decryption unit

comprises:

a reading device.

66.   An information system comprising:

a first image of a gem item;

5   a second image of said gem item;

a storage unit configured to store said first image and said second image as part of a

report for said gem item; and

a display unit configured to display a data item of said report to a viewer.

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10   67.   The method of claim 66 wherein said viewer is a student.

68.   The method of claim 66 wherein said viewer is a researcher.

69.   A computer program product comprising:

15   a computer usable medium having computer readable program code embodied therein

configured to operate a gem item report system, said computer program product comprising:

computer readable code configured to cause a computer to capture a first image of a gem

item;

computer readable code configured to cause a computer to capture a second image of said

20   gem item;

computer readable code configured to cause a computer to store said first image as part of

a report for a gem item; and

computer readable code configured to cause a computer to store said second image as part

of said report for said gem item.

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70.   The computer program product of claim 69 wherein said computer readable code

configured to cause a computer to capture said first image is further configured to capture said

first image from a first perspective, and wherein said computer readable code configured to cause a computer to capture said second image is further configured to capture said second image from a second perspective.

5   71.   The computer program product of claim 69 wherein said computer readable code configured to cause a computer to capture said first image is further configured to capture said first image at a first magnification level, and wherein said computer readable code configured to cause a computer to capture said second image is further configured to capture said second image at a second magnification level.

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       72.   The computer program product of claim 69 wherein said first image and said second image are part of a plurality of images that form a 360-degree view of said gem item.

       73.   The computer program product of claim 69 further comprising:

15   computer readable code configured to cause a computer to display a three dimensional image of said gem item wherein said three dimensional image is formed from data stored in said report.

       74.   The computer program product of claim 69 further comprising:

20   computer readable code configured to cause a computer to select a perspective by a user; and

       computer readable code configured to cause a computer to display said first image.

       75.   The computer program product of claim 74 wherein said first image is from said

25 perspective.

76. The computer program product of claim 74 wherein said first image is a best fit for said perspective in a plurality of images of said gem item that are stored as part of said report.

77. The computer program product of claim 69 further comprising:

5   computer readable code configured to cause a computer to select a magnification level by a user; and

computer readable code configured to cause a computer to display said first image.

78. The computer program product of claim 77 wherein said first image is at said

10   magnification level.

79. The computer program product of claim 77 wherein said first image is a best fit for said magnification level in a plurality of images of said gem item that are stored as part of said report.

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80. The computer program product of claim 69 further comprising:

computer readable code configured to cause a computer to display a plurality of images stored as part of said report in a pre-determined order.

20   81. The computer program product of claim 69 further comprising:

computer readable code configured to cause a computer to associate a hyperlink to a second data item with a first data item; and

computer readable code configured to cause a computer to store said first data item and said hyperlink as part of said report.

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82. The computer program product of claim 69 further comprising:

computer readable code configured to cause a computer to display said first image to an interested party.

83. The computer program product of claim 82 wherein said interested party is a

5 potential buyer.

84. The computer program product of claim 82 wherein said interested party is a student.

10 85. The computer program product of claim 84 wherein said student is learning to cut a type of gem item.

86. The computer program product of claim 84 wherein said student is learning to appraise a type of gem item.

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87. The computer program product of claim 69 further comprising:

computer readable code configured to cause a computer to capture a third image of a second gem item;

computer readable code configured to cause a computer to compare said third image to

20 said first image; and

computer readable code configured to cause a computer to determine whether said second gem item is said gem item.

88. The computer program product of claim 69 further comprising:

25 computer readable code configured to cause a computer to transmit said first image from a first location to a second location.

89.   The computer program product of claim 69 further comprising:

computer readable code configured to cause a computer to create a printed version of said

report wherein said printed version is packaged together with said report.

5   90.   The computer program product of claim 69 further comprising:

computer readable code configured to cause a computer to display a photorealistic image

of said gem item wherein said photorealistic image is formed from data stored in said report.

91.   The computer program product of claim 69 wherein said computer readable code

10   configured to cause a computer to store said first image is further configured to cause a computer

to store said first image electronically.

92.   The computer program product of claim 69 wherein said computer readable code

configured to cause a computer to store said first image is further configured to cause a computer

15   to store said first image holographically.

93.   The computer program product of claim 69 wherein said computer readable code

configured to cause a computer to store said first image is further configured to cause a computer

to store said first image via ionic implant.

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94.   The computer program product of claim 69 wherein said computer readable code

configured to cause a computer to store said first image is further configured to cause a computer

to store said first image genetically.

25   95.   The computer program product of claim 69 wherein said computer readable code

configured to cause a computer to store said first image is further configured to cause a computer

to store said first image chemically.

96.   The computer program product of claim 69 further comprising:

computer readable code configured to cause a computer to encrypt a data item of said

report.

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97.   A computer program product comprising:

a computer usable medium having computer readable program code embodied therein

configured to authenticate a first gem item, said computer program product comprising:

computer readable code configured to cause a computer to retrieve a report for a second

10   gem item wherein said report comprises:

a first image of said second gem item; and

a second image of said second gem item; and

computer readable code configured to cause a computer to compare a feature of said first

gem item to a data item in said report.

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98.   A computer program product comprising:

a computer usable medium having computer readable program code embodied therein

configured to authenticate a report, said computer program product comprising:

computer readable code configured to cause a computer to generate said report for a gem

20   item wherein said report comprises:

a first image of said gem item; and

a second image of said gem item; and

computer readable code configured to cause a computer to encrypt a data item of said

report;

25   computer readable code configured to cause a computer to attempt to decrypt said data

item; and

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computer readable code configured to cause a computer to authenticate said report if said data item is decrypted successfully.

99.   The report authenticating system of claim 98 wherein said computer readable code

5   configured to cause a computer to attempt to decrypt comprises:

computer readable code configured to cause a computer to operate a reading device.

100.   A computer program product comprising:

a computer usable medium having computer readable program code embodied therein

10   configured to inform, said computer program product comprising:

computer readable code configured to cause a computer to capture a first image of a gem item;

computer readable code configured to cause a computer to capture a second image of said gem item;

15   computer readable code configured to cause a computer to store said first image as part of a report for said gem item;

computer readable code configured to cause a computer to store said second image as part of said report for said gem item; and

computer readable code configured to cause a computer to display a data item of said

20   report to a viewer.

101.   The computer program product of claim 100 wherein said viewer is a student.

102.   The computer program product of claim 100 wherein said viewer is a researcher.

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